



Dart Hawkesbury
1270 Aberdeen St Hawkesbury, ON K6A 1K7 Canada
Tel (613) 632-5200
Fax 613 632-5246

Purchasing Receipts

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name
PO040488	MES002-VC	1	1	Net 30	M304R4.000	304 SS Round Bar 4.000" ; MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276 NOTE: AISI 303 NOT ACCEPTABLE				12	7/31/2018	12		S099993	Stock	8/1/2018	\$ 145.00 / ft	7		\$1,727.97	Metaux Solutions
		2			MT-1144-H1.000	AISI 1144 Stressproof Steel Hex Bar 1.000" MATERIAL: AISI 1144 STRESSPROOF STEEL HEX BAR ASTM A311 or UNS G11440						12		S099994	Stock	8/1/2018	\$ 33.75 / ft	7		\$412.43	Metaux Solutions
		3			M17-4-H900-R1.125	17-4 SS H900 Round Bar 1.125" ; M174PH-H900R0.500 MATERIAL: 17-4 PH COND. H900 AS PER AMS 5643 NOTE: PLEASE SHIP MATERIAL TO METCOR INC. 560 BOULV. ARTHUR SAUVE SAINT-EUSTACHE, QC J7R-5A8 450-473-1884 receive ft						12		S099995	Stock	8/1/2018	\$ 69.95 / ft	7		\$839.40	Metaux Solutions

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name		
		4			M17-4-H900-R1.375	17-4 SS H900 Round Bar 1.375" ; M174PH-H900R0.500 MATERIAL: 17-4 PH COND. H900 AS PER AMS 5643 NOTE: PLEASE SHIP MATERIAL TO METCOR INC. 560 BOULV. ARTHUR SAUVE SAINT-EUSTACHE, QC J7R-5A8 450-473-1884 receive ft						12		S099996	Stock	8/1/2018	\$ 65.00 / ft	7		\$780.00	Metaux Solutions		
		5			M17-4-H900-R0.750	17-4 SS H900 Round Bar 0.750" ; MATERIAL: 17-4 PH COND. H900 M174PH-H900R0.625 AS PER AMS 5643 NOTE: PLEASE SHIP MATERIAL TO METCOR INC. 560 BOULV. ARTHUR SAUVE SAINT-EUSTACHE, QC J7R-5A8 450-473-1884 receive ft				24		24		S099997	Stock	8/1/2018	\$ 35.20 / ft	7		\$844.80	Metaux Solutions		
Total:										72			72									\$3,551.01	

METAL SOLUTIONS INC
2625 BOUL JACQUES CARTIER EST
LONGUEUIL, QUEBEC
J4N 1L7 Tel.: 450 641-3330

Shipping Order

27/07/2018

Order : 136803
Reference : 40488
Bid : 28208
Ship : PICK UP / PICK UP

Customer: 6323336

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAWKESBURY, ONTARIO
K6A 1K7

Ship To

Same

Tel.: 1 613 632-3336

Item No.	Description	Qty	Qty. Delivered	B/O Qty
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N			
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N			
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N			
SR44	304 ROU 4.000 DIA 1 X 12' R/L ***** HT 571B AT	12	12 11.7/66	0
CH144	CRS 1144 HEX 1.00 A/F 1 X 12' R/L HT 100793260 AT	12.22	12.22	0
SR34174	17-4PH ROU .750 DIA COND. H900 2 X 12' R/L HT 441600 AT	24	24	0
SR118174	17-4PH ROU 1.125 DIA COND. H900. 1 X 12' R/L HT 9SH0178-KMO AT	12	12	0
SR138174	17-4PH ROU 1.375 DIA COND. H900 1 X 12' R/L HT SG2617-G102 AT	12	12	0

SHIP JOURNEY COLLECT

JP

Alex
SMITH

514-344-2202

Shipping : _____ Ref. : _____
Package No : _____
Merchandise Received: _____



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO040488**

Supplier: MES002-VC
Metaux Solutions
2625 boul Jacques-Cartier Est
Longueuil
QC
J4N 1L7 Canada
Phone: 800 558 8858
Fax: 514 633 8044

PO No: PO040488

PO Date: 7/13/18

Due Date: 7/30/18

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Lavoie, Chantal
clavoie@dartaero.com

E-MAILED
JUL 13 2018

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments: BID 28160 AND 28208

Items

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1 ✓ AT		M304R4.000		304 SS Round Bar 4.000" : MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276 NOTE: AISI 303 NOT ACCEPTABLE	Firmed -		7/30/18	12 ft	0 ft	12 ft	\$145.00/ft	\$1,740.00
<div>12.916 ft</div> <div>AUG 08 2018</div>												
Line Item Note cut bar in section of 6 ft												
2 ✓ AT		MT-1144-H1.000		AISI 1144 Stressproof Steel Hex Bar 1.000" MATERIAL: AISI 1144 STRESSPROOF STEEL HEX BAR ASTM A311 or UNS G11440	Firmed -		7/30/18	12 ft	0 ft	12 ft	\$33.75/ft	\$405.00
<div>12.25 ft</div> <div>AUG 08 2018</div>												

Items												
Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
3 ✓ At		M17-4-H900-R1.125		17-4 SS H900 Round Bar 1.125" : M174PH-H900R0.500 MATERIAL: 17-4 PH COND. H900 AS PER AMS 5643 NOTE: PLEASE SHIP MATERIAL TO METCOR INC. 560 BOULV. ARTHUR SAUVE SAINT-EUSTACHE, QC J7R-5A8 450-473-1884 receive ft	Firmed	-	7/30/18	12 ft	0 ft	12 ft	\$69.95/ft	\$839.40
									12 ft			
												AUG 08 2018
4 ✓ At		M17-4-H900-R1.375		17-4 SS H900 Round Bar 1.375" : M174PH-H900R0.500 MATERIAL: 17-4 PH COND. H900 AS PER AMS 5643 NOTE: PLEASE SHIP MATERIAL TO METCOR INC. 560 BOULV. ARTHUR SAUVE SAINT-EUSTACHE, QC J7R-5A8 450-473-1884 receive ft	Firmed	-	7/30/18	12 ft	0 ft	12 ft	\$65.00/ft	\$780.00
									12 ft			
												AUG 08 2018
5 ✓ At		M17-4-H900-R0.750		17-4 SS H900 Round Bar 0.750" : MATERIAL: 17-4 PH COND. H900 M174PH-H900R0.625 AS PER AMS 5643 NOTE: PLEASE SHIP MATERIAL TO METCOR INC. 560 BOULV. ARTHUR SAUVE SAINT-EUSTACHE, QC J7R-5A8 450-473-1884 receive ft	Firmed	-	7/30/18	24 ft	0 ft	24 ft	\$35.20/ft	\$844.80
									24 ft			
												AUG 08 2018
Grand Total:											\$4,609.20	

Order Notes



Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)
A026 certification of material conformance
A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 7/13/18 1:29 PM dart.lavoie.chantal

METAUX SOLUTIONS INC
2625 BOUL JACQUES CARTIER EST
LONGUEUIL, QUEBEC
J4N 1L7 Tel.: 450 641-3330

Bid 09/07/2018 28160

Sales Rep. : JEROME PRIMEAU
Reference : CHANTAL
Expiration Date : 07/10/2018

Customer: 6323336

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAWKESBURY, ONTARIO
K6A 1K7

Ship To :

Same

Tel.: 1 613 632-3336

Item No.	Description	Qty	Price	Total	Tx
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N				
DT414	MS TUB 4.000 X .250 WALL DOM 1 X 72" LE PLUS PROCHE	6	41.50	249.00	A
DT34083	MS TUB .750" X .083 WALL SMLS 6 X 17/24'	120	4.90	588.00	A
DT34085	MS TUB .750 X .065 WALL DOM 2 X 17' X 24' LE PLUS PROCHE	40	3.30	132.00	A
HP316	MS PLATE .187 1 X 4' X 4' LE PLUS PROCHE	16	9.75	156.00	A
MP241H	4140 HTSR PLATE 2.035" THICK 1 X 4" X 48"	119	2.90	345.10	A
MP1241H	4140 HTSR PLATE TFHT .500" 1 X 4" X 48"	31	3.75	116.25	A
MP1241H	4140 HTSR PLATE TFHT .500" 1 X 32/33" X 48"	242	3.75	907.50	A
CR4	CRS ROU 4.000 DIA 1018 1 X 24'	2	109.00	218.00	A
CR234	CRS ROU 2.750 DIA 1018 1 X 72"	6	42.00	252.00	A
SR2123	303 ROU 2.500 DIA 1 X 48"	4	139.85	559.40	A
SS112B4	304 SHEET .120 (11G) 1 X 4' X 8'	32	18.35	587.20	A
SR44	304 ROU 4.000 DIA 1 X 12' R/L CUT IN HALF	12	145.00	1 740.00	A
GR3444	1144 STRESSPROOF .750 DIA	24	4.75	114.00	A

*** Continued on Next Page ***

Bid

09/07/2018

28160

METAUX SOLUTIONS INC
2625 BOUL JACQUES CARTIER EST
LONGUEUIL, QUEBEC
J4N 1L7 *Tel. : 450 641-3330*

Sales Rep. : JEROME PRIMEAU
Reference : CHANTAL
Expiration Date : 07/10/2018

Customer : 6323336

Ship To :

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAWKESBURY, ONTARIO
K6A 1K7

Same

Tel.: 1 613 632-3336

<i>Item No.</i>	<i>Description</i>	<i>Qty</i>	<i>Price</i>	<i>Total</i>	<i>Tx</i>
	2 X 12'				
CH144	CRS 1144 HEX 1.00 A/F	12	33.75	405.00	A
	1 X 12'				
SR118174	17-4PH 1.125 DIA, COND. H900	12	69.95	839.40	A
	1 X 12' R/L				
SR138174	17-4PH ROU 1.375 DIA. COND. H900	12	65.00	780.00	A
	1 X 12' R/L				
	7/10 JOURS				

Subtotal 7 988.85

A) Regist : HST : 1 038.55

Total : 9 027.40

METAUX SOLUTIONS INC
 2625 BOUL JACQUES CARTIER EST
 LONGUEUIL, QUEBEC
 J4N 1L7 **Tel. : 450 641-3330**

Bid 12/07/2018 28208

Sales Rep. : JEROME PRIMEAU
Reference : CHANATAL
Expiration Date : 10/10/2018

Customer : 6323336

DART AEROSPACE LTD
 1270, ABERDEEN STREET
 HAWKESBURY, ONTARIO
 K6A 1K7

Ship To :

Same

Tel.: 1 613 632-3336

<i>Item No.</i>	<i>Description</i>	<i>Qty</i>	<i>Price</i>	<i>Total</i>	<i>Tx</i>
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N				
SR34174	17-4PH ROU .750 DIA COND. 2 X 12' R/L	24	35.20	844.80	A

7/10 DAYS

	Subtotal	844.80
A) Regist :	HST :	109.82
	Total :	954.62



Tél.: 450 641-3330
Tél.: 514 633-8010
1 800 967-2003

METALLURGICAL TEST REPORT

Customer: 007080 003

Date: 1/15/2018 **Page:** 1

Stool: 304/304L

18: 40 fca

Your Order: MH6001

FAS Order: IN 0257533 11 Heat Treat Code: 43.862

Corrosion: ASTM A262/15 Prac A/E OK
Red Ratio: 6.7 :1

PRODUCT DESCRIPTION:

FACE HR0175 (MID RADIOS ONLY)

Round Bar, Annealed, Smooth Turned, Cold Finished

DNB 830400/830403, EN 10204 3.1, ASTM A484/16

ASTM A276/17, ASTM A479/17, ASTM A182/16A CHE

~~2500E 8A479/13, 2500E 8A182/13 CHINA ONLY~~

AMES 5639J, AMES 5647J, AMES QQS-763D, QQS

SOLUTION ANNUAL TEMP 1900F MOH, AGEM A320/17/

DATE 10/17/68, AUTH 1320/17a CL 1 CR 20

ASTM A193/10A-ASME SA193/10 CL 1 GR B8 (EXC PAR 7.2)

Product Id	Skid #	Diameter	Size	Weight	-----Length-----	Mark	Pieces	Commodity Code
BJ1086 4		4.0000		1.531	144.00	14	1	

CHEMICAL ANALYSIS

Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323	ES(Spain)	CW(Country of Mott)	US(United States)	JP(Japan)	Chemical Analays per ASTM A751/145

Lab Accreditation Bureau, ISO/IEC 17025, Certified# L2323
South Africa) JP(japan) Chemical Analysis per ASTM A751/144

MS Heat	CM	C %	CO %	CR %	CU %	MO %	NI %	SI %	P %
5718	UB	.022	.16	18.10	.43	1.34	.382	.070	.036
		S %	SI %						
			.0260	.25					

MECHANICAL PROPERTIES

Product Id	1 d o i c x	HB	No.	.2VS KBT	UTS KBT	RA %	Ring % 4D
BJ1086 4	RL	158.0	42.00	86.00	69.00	53.00	

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

**Technical
Dept. Mgr.**

KRIS LARK

1/15/2018

ITEM 1. 1 X 12 R/H

COMMANDE : 136903

DEC 10 1999

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS ROUND BAR
(NOTE: AISI 303 NOT ACCEPTABLE)

SPECIFICATION:

ASTM A276

PART NUMBER:

M304R/D.DDD
DIA.

WHERE "D.DDD" = DIAMETER IN INCHES

EG. 0.75" ROUND BAR = M304R0 750

RELEASED
R 10/23/15

B	REFORMAT (N/C, ADD SPECS (ZN D6-1))	CP	09.07.15
A	NEW ISSUE	AJS	08.03.03
REV	DESCRIPTION	BY	DATE
DESIGN	AJS		
DRAWN	g		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	09.07.15		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M304R			
TITLE 304/316 ROUND BAR			
REV. B			
SHEET 1 OF 1			
SCALE NTS			
COPYRIGHT © 2008 BY DART AEROSPACE LTD.			

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304R4.00
 DATE: 18/08/08

PO / BATCH NO.: P0040488 / 5099993

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 11.9166ft
 QUANTITY INSPECTED: 11.9166ft
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 4.000"
 THICKNESS RECEIVED: 4.000"
 SHEET SIZE ORDERED: —
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	
CORROSION	Y <input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	ASTM A276
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	MT-571B
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>AT</u>	SIGNED OFF BY: _____		
DATE: <u>18/08/08</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

CERTIFICAT D'ANALYSE

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAWKESBURY, ONTARIO
K6A 1K7

1 août 2018

Description: 1144 CF BAR ASTM A311 CL B
1 HEX X 12' R/L
HEAT: 100793260 ITEM: 527475
Line Total: 36 LB

Specifications:

ASTM A108 13 ASTM A311 CL B 04 ASTM A29 16
ASTM A576 14 SAE J403/J404

CHEMICAL ANALYSIS

C	MN	P	S	SI	CU	NI	MO
0.43	1.40	0.01	0.25	0.18	0.15	0.06	0.02
CR	N						
0.10	0.008						

RCPT: R499715

COUNTRY OF ORIGIN : USA

MECHANICAL PROPERTIES

DESCRIPTION	YLD STR PSI	ULT TEN PSI	%ELONG IN 02 IN	%RED IN AREA	HARDNESS RC
	117000.0	134000.0	11.0	32.0	26

STRAND CAST MATERIAL IS FREE FROM MERCURY CONTAMINATION
NO WELD REPAIR PERFORMED ON MATERIAL

COMMENTS

melt source: nucor steel - norfolk
melted & mfg: usa
red ratioA: 50:1

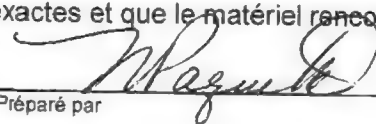
ITEM 2: 1 X 12' R/L

COMMANDE : 136803


REF : 40488

Métaux Solutions inc. certifie que les analyses sur ce document sont exactes et que le matériel rencontre les spécifications énumérées.

Préparé par



PURCHASE MATERIAL: AISI 1144 STRESSPROOF STEEL HEX BAR
SPECIFICATION: ASTM A311 for UNS G11440
PART NUMBER: MT-1144-H [D.DDD]
WHERE "D.DDD" = DIAMETER IN INCHES
EG. 5/8" HEX BAR = MT-1144-H0.625

	100-100707 Ottawa, Canada	
	TITLE	
AISI 1144 STRESSPROOF STEEL HEX BAR		
PART NO:	MT-1144-H	REV: A
TOL. RD	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES DECIMALS AND FRACTIONS DIMENSIONS APPLY TO ALL PARTS/HO	
DESIGNED BY: VM 1601/17 DRAWN BY: VM 0117/2018 CHECKED BY: VM 0117/2018 APPROVED BY: VM 0117/2018	VOLTAIRANCE: 1/8" 1/16" 3/16" 1/8" 1/2" 3/16" 5/8" 1/2" 1" 5/8" 1 1/2" 1" 2" 1 1/2" 3" 2" 4" 3" 5" 4" 6" 5" 8" 7" 10" 9" 12" 11" 14" 13" 16" 15" 18" 17" 20" 19" 24" 23" 30" 29" 36" 35" 42" 41" 48" 47" 54" 53" 60" 59" 72" 71" 84" 83" 96" 95" 108" 107" 120" 119" 144" 143" 168" 167" 192" 191" 216" 215" 240" 239" 264" 263" 288" 287" 312" 311" 336" 335" 360" 359" 384" 383" 408" 407" 432" 431" 456" 455" 480" 479" 504" 503" 528" 527" 552" 551" 576" 575" 600" 599" 624" 623" 648" 647" 672" 671" 696" 695" 720" 719" 744" 743" 768" 767" 792" 791" 816" 815" 840" 839" 864" 863" 888" 887" 912" 911" 936" 935" 960" 959" 984" 983" 1008" 1007" 1032" 1031" 1056" 1055" 1080" 1079" 1104" 1103" 1128" 1127" 1152" 1151" 1176" 1175" 1200" 1199" 1224" 1223" 1248" 1247" 1272" 1271" 1296" 1295" 1320" 1319" 1344" 1343" 1368" 1367" 1392" 1391" 1416" 1415" 1440" 1439" 1464" 1463" 1488" 1487" 1512" 1511" 1536" 1535" 1560" 1559" 1584" 1583" 1608" 1607" 1632" 1631" 1656" 1655" 1680" 1679" 1704" 1703" 1728" 1727" 1752" 1751" 1776" 1775" 1800" 1799" 1824" 1823" 1848" 1847" 1872" 1871" 1896" 1895" 1920" 1919" 1944" 1943" 1968" 1967" 1992" 1991" 2016" 2015" 2040" 2039" 2064" 2063" 2088" 2087" 2112" 2111" 2136" 2135" 2160" 2159" 2184" 2183" 2208" 2207" 2232" 2231" 2256" 2255" 2280" 2279" 2304" 2303" 2328" 2327" 2352" 2351" 2376" 2375" 2400" 2399" 2424" 2423" 2448" 2447" 2472" 2471" 2496" 2495" 2520" 2519" 2544" 2543" 2568" 2567" 2592" 2591" 2616" 2615" 2640" 2639" 2664" 2663" 2688" 2687" 2712" 2711" 2736" 2735" 2760" 2759" 2784" 2783" 2808" 2807" 2832" 2831" 2856" 2855" 2880" 2879" 2904" 2903" 2928" 2927" 2952" 2951" 2976" 2975" 3000" 2999" 3024" 3023" 3048" 3047" 3072" 3071" 3096" 3095" 3120" 3119" 3144" 3143" 3168" 3167" 3192" 3191" 3216" 3215" 3240" 3239" 3264" 3263" 3288" 3287" 3312" 3311" 3336" 3335" 3360" 3359" 3384" 3383" 3408" 3407" 3432" 3431" 3456" 3455" 3480" 3479" 3504" 3503" 3528" 3527" 3552" 3551" 3576" 3575" 3600" 3599" 3624" 3623" 3648" 3647" 3672" 3671" 3696" 3695" 3720" 3719" 3744" 3743" 3768" 3767" 3792" 3791" 3816" 3815" 3840" 3839" 3864" 3863" 3888" 3887" 3912" 3911" 3936" 3935" 3960" 3959" 3984" 3983" 4008" 4007" 4032" 4031" 4056" 4055" 4080" 4079" 4104" 4103" 4128" 4127" 4152" 4151" 4176" 4175" 4200" 4199" 4224" 4223" 4248" 4247" 4272" 4271" 4296" 4295" 4320" 4319" 4344" 4343" 4368" 4367" 4392" 4391" 4416" 4415" 4440" 4439" 4464" 4463" 4488" 4487" 4512" 4511" 4536" 4535" 4560" 4559" 4584" 4583" 4608" 4607" 4632" 4631" 4656" 4655" 4680" 4679" 4704" 4703" 4728" 4727" 4752" 4751" 4776" 4775" 4800" 4799" 4824" 4823" 4848" 4847" 4872" 4871" 4896" 4895" 4920" 4919" 4944" 4943" 4968" 4967" 4992" 4991" 5016" 5015" 5040" 5039" 5064" 5063" 5088" 5087" 5112" 5111" 5136" 5135" 5160" 5159" 5184" 5183" 5208" 5207" 5232" 5231" 5256" 5255" 5280" 5279" 5304" 5303" 5328" 5327" 	

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-1144-41.000
 DATE: 18/08/08

PO / BATCH NO.: P2040488/5099994

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 12.22 ft
 QUANTITY INSPECTED: 12.22 ft
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.000"
 THICKNESS RECEIVED: 1.000"
 SHEET SIZE ORDERED: —
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y N	
CORROSION	Y <input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y N	ASTM A311
CORRECT THICKNESS	<input checked="" type="radio"/> Y N	
PHOTO REQUIRED	Y <input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y N	HT: 100793260
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y N	1
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u> DATE: <u>18/08/08</u>	SIGNED OFF BY: _____ DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

CERTIFICAT D'ANALYSE

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAWKESBURY, ONTARIO
K6A 1K7

1 août 2018

Description: 17-4 SOL ANN CF BAR ASTM A564
1-1/8 RD X 12' R/L Line Total: 40 LB
HEAT: 9SH0178-KM0 ITEM: 510525

Specifications:
AMS 5643 V ASTM A564 T630 13 ASME SA564 T630 13
ASTM A484 16 ASTM E8 16A

CHEMICAL ANALYSIS

C	SI	MN	P	S	NI	CR	MO
0.01	0.35	0.60	0.0180	0.003	4.68	15.24	0.17
CU	CO	N	FE	CBTA			
3.30	0.05	0.022	75.20	0.28			

RCPT: R508734

COUNTRY OF ORIGIN : TAIWAN

MECHANICAL PROPERTIES

DESCRIPTION	YLD STR KSI	ULT TEN KSI	%ELONG IN 02 IN	%RED IN AREA	HARDNESS BHN
COND A	119.0	141.0	14.0	61.0	269
DESCRIPTION	YLD STR KSI	ULT TEN KSI	%ELONG IN 02 IN	%RED IN AREA	HARDNESS RC
DEV: H900 L	176.0	199.0	13.0	47.0	42

GRAIN SIZE : 8 -

MATERIAL IS FREE FROM MERCURY CONTAMINATION
NO WELD REPAIR PERFORMED ON MATERIAL
MACRO: OK
MICRO1: OK
AMS NO : 2303
SEVERITY : 0.0
FREQUENCY: 0.0

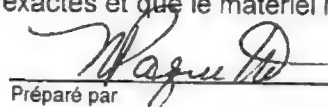
ITEM 4: 1 X 12' R/L

COMMANDE : 136803

REF : 40488

Métaux Solutions inc. certifie que les analyses sur ce document sont exactes et que le matériel rencontre les spécifications énumérées.

Préparé par



SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL 17-4 PH / S17400 / TYPE 630 SS ROUND BAR
GRAIN MUST BE ALONG LENGTH OF BAR
MINIMUM YIELD STRENGTH PER TABLE
MINIMUM ULTIMATE STRENGTH PER TABLE

SPECIFICATION: AMS 5643 OR ASTM A564

PART NUMBER: M17-4-XXXXX | R | X.XXX | WHERE: HHHH SPECIFIES THE MATERIAL CONDITION (PER TABLE BELOW)
COND O.D. X.XXX = DIAMETER (IN INCHES)

MATERIAL CONDITION TABLE:

CODE	CONDITION	MIN YIELD TENSILE STRENGTH (KSI)	MIN ULTIMATE TENSILE STRENGTH (KSI)
(OMITTED)	NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)	100	150
H900	H900	170	190
H925	H925	155	170
H1025	H1025	145	155
H1075	H1075	125	145
H1100	H1100	115	140
H1150	H1150	105	135
CONDA	CONDITION A (SOLUTION TREATED)		

NOTES: MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR TENSION OR SHEAR APPLICATIONS IN COLD WEATHER CONDITIONS
MATERIAL IN H800 AND H925 CONDITION NOT RECOMMENDED FOR APPLICATIONS WHERE STRESS CORROSION CRACKING IS POSSIBLE
CONDITION A NOT TO BE USED IN DESIGN FOR FINAL PRODUCT AND SHOULD ALWAYS BE HEAT TREATED

EXAMPLES:

PART 4.000" DIAMETER BAR MIN UTS = 150 KSI, MIN YTS = 100 KSI
2.500" DIAMETER BAR H900 CONDITION
3.250" DIAMETER BAR H1025 CONDITION
0.750" DIAMETER BAR A CONDITION

PART NUMBER
M17-4-R1000
M17-4-H900-R2500
M17-4-H1025-R3250
M17-4-CONDA-R0750

RELEASED
2017-10-31
E(n17-728)

APPROVED

C	ADDED MATERIAL CONDITION (C1717-107)	NO	17.09.14
B	RE-FORMAT DWG. S17400(TYPE 630 ADDED TO PURCHASE MATERIAL (ZN DB-1), ADD A564 SPEC (C8-1), REF PAR 00-020A	VS	10.05.20
A	NEW ISSUE	CP	05.03.16
REV	DESCRIPTION	BY	DATE
DESIGN	NO		
DRAWN	NO		
CHECKED	CP		
MFG. APPR	RA		
APPROVED	WM		
DE APPR	CP		
DATE	17.09.14		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M17-4-R			
TITLE 17-4 SS ROUND BAR			
REV. C			
SHEET 1 OF 1			
SCALE NTS			
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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M17-4-H900-R1.125
 DATE: 18/08/08

PO / BATCH NO.: P0040488/S099995

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 124
 QUANTITY INSPECTED: 124
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.125"
 THICKNESS RECEIVED: 1.125"
 SHEET SIZE ORDERED: —
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	AMS 5643
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(Y) N	HT: 9540178-KMO
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u>	SIGNED OFF BY: _____	
DATE: <u>18/08/08</u>	DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

CERTIFICAT D'ANALYSE

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAWKESBURY, ONTARIO
K6A 1K7

1 août 2018

Description: 17-4 SOL ANN CF BAR ASTM A564
1-3/8 RD X 12' R/L Line Total: 60.636 LB
HEAT: SG2617-G102 ITEM: 510529

Specifications:
AMS 5643 U ASTM A564 T630 13 ASME SA564 T630 13
ASTM E8 16A ASTM A388 16A EN 10204 3.1

CHEMICAL ANALYSIS

C	SI	MN	P	SI	NI	CR	MO
0.02	0.46	0.63	0.029	0.001	4.33	15.16	0.17
CU	CO	N	FE	CBTA			
3.45	0.051	0.02	75.30	0.21			

RCPT: R407698

COUNTRY OF ORIGIN : TAIWAN

MECHANICAL PROPERTIES

DESCRIPTION	YLD STR KSI	ULT TEN KSI	%ELONG IN 02 IN	%RED IN AREA	HARDNESS BHN
COND A	117.0	149.0	14.0	59.0	316
DESCRIPTION	YLD STR KSI	ULT TEN KSI	%ELONG IN 02 IN	%RED IN AREA	HARDNESS RC
DEV: H900 L	181.0	202.0	16.0	54.0	43

GRAIN SIZE : 7 -

MATERIAL IS FREE FROM MERCURY CONTAMINATION
NO WELD REPAIR PERFORMED ON MATERIAL
MACRO: OK
MICRO1: OK

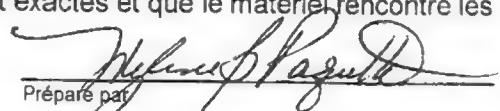
ITEM 5: 1 X 12' R/L

COMMANDE : 136803

REF : 40488

Métaux Solutions inc. certifie que les analyses sur ce document sont exactes et que le matériel rencontre les spécifications énumérées.

Préparé par



SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 17-4 PH / S17400 / TYPE 630 SS ROUND BAR
GRAIN MUST BE ALONG LENGTH OF BAR
MINIMUM YIELD STRENGTH PER TABLE
MINIMUM ULTIMATE STRENGTH PER TABLE

SPECIFICATION: AMS 5643 OR ASTM A564
PART NUMBER: M17-4-XXXXX | R | X.XXX | O.D. |
COND

WHERE: HHHH SPECIFIES THE MATERIAL CONDITION (PER TABLE BELOW)
X.XXX = DIAMETER (IN INCHES)

MATERIAL CONDITION TABLE:

CODE	CONDITION	MIN YIELD TENSILE STRENGTH (KSI)	MIN ULTIMATE TENSILE STRENGTH (KSI)
(OMITTED)	NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)	100	150
H900	H900	170	190
H925	H925	155	170
H1025	H1025	145	155
H1075	H1075	125	145
H1100	H1100	115	135
H1150	H1150	105	135
CONDA	CONDITION A (SOLUTION TREATED)		

NOTES: MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR TENSION OR SHEAR APPLICATIONS IN COLD WEATHER CONDITIONS
MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR APPLICATIONS WHERE STRESS CORROSION CRACKING IS POSSIBLE
CONDITION A NOT TO BE USED IN DESIGN FOR FINAL PRODUCT AND SHOULD ALWAYS BE HEAT TREATED

EXAMPLES:

PART NUMBER
4.000" DIAMETER BAR MIN YTS = 150 KSI, MIN YTS = 100 KSI
2.500" DIAMETER BAR H900 CONDITION
3.250" DIAMETER BAR H1025 CONDITION
0.750" DIAMETER BAR A CONDITION

RELEASED
2017-10-31
E(17-728) 01

APPROVED

C	ADDED MATERIAL CONDITION (CIR17-107)	NO	17.09.14
B	REFORMAT DWG. S17400 TYPE 630 ADDED TO PURCHASE MATERIAL (ZN D8-1). ADD A564 SPEC (C8-1).	VS	10.05.20
A	NEW ISSUE	CP	05.03.16
REV	DESCRIPTION	BY	DATE
DESIGN	NO		
DRAWN	NO		
CHECKED	CP		
MFG. APPR	RA		
APPROVED	WM		
DE APPR	CP		
DATE	17.09.14		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M17-4-R			
SHEET 1 OF 1			
TITLE 17-4 SS ROUND BAR			
SCALE NTS			
REV. C			
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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M17-4-H900-R1.375
 DATE: 18/08/08

PO / BATCH NO.: P0040488 / 5099996

MATERIAL CERT REC'D: Y
 QUANTITY RECEIVED: 12 ft
 QUANTITY INSPECTED: 12 ft
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.375"
 THICKNESS RECEIVED: 1.375"
 SHEET SIZE ORDERED: —
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y N	
CORROSION	Y <input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y N	AMS 5643
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y N	HT: 5 G2617- G102
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u> DATE: <u>18/08/08</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

CERTIFICAT D'ANALYSE

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAWKESBURY, ONTARIO
K6A 1K7

1 août 2018

Description: 17-4 SOL ANN CF BAR

ASTM A564

3/4 RD X 12' R/L

Line Total: 36 LB

HEAT: 441600

ITEM: 510517

Specifications:

AMS 5643 U

ASTM A564 T630 13

ASME SA564 T630

ASTM F899 12B

ASTM A484 16

CHEMICAL ANALYSIS

C	MN	SI	S	P	CR	NI	MO
0.024	0.82	0.33	0.023	0.025	15.30	4.30	0.20
CU	NB	NBTA					
3.36	0.17	0.17					

RCPT: R464258

COUNTRY OF ORIGIN : ITALY

MECHANICAL PROPERTIES

DESCRIPTION	YLD STR PSI	ULT TEN PSI	%ELONG IN 02 IN	%RED IN AREA	HARDNESS BHN
COND A	164795.594	169348.297	13.2	49.2	343
DESCRIPTION	YLD STR KSI	ULT TEN KSI	%ELONG IN 02 IN	%RED IN AREA	HARDNESS BHN
DEV: H900 L	174.0	201.0	12.0	45.0	415

THERMAL TREATMENT: OK
HEAT TREAT 900F 1 HR
COOL IN AIR
MACRO: OK
MICRO1: OK

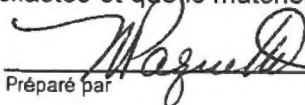
ITEM 3: 2 X 12' R/L

COMMANDE : 136803

REF : 40488

Métaux Solutions inc. certifie que les analyses sur ce document sont exactes et que le matériel rencontre les spécifications énumérées.

Préparé par



SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 17-4 RH / S17400 / TYPE 630 SS ROUND BAR
GRAIN MUST BE ALONG LENGTH OF BAR
MINIMUM YIELD STRENGTH PER TABLE
MINIMUM ULTIMATE STRENGTH PER TABLE

SPECIFICATION: AMS 5643 OR ASTM A564

PART NUMBER: M17-4-111111-1 R | X XXX | WHERE: 111111 SPECIFIES THE MATERIAL CONDITION (PER TABLE BELOW)
COND | O.D. | X.XXX = DIAMETER (IN INCHES)

MATERIAL CONDITION TABLE:

CODE	CONDITION	MIN YIELD TENSILE STRENGTH (KSI)	MIN ULTIMATE TENSILE STRENGTH (KSI)
(OMITTED)	NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)	100	150
H900	H900	170	190
H925	H925	155	170
H1025	H1025	145	155
H1075	H1075	125	145
H1100	H1100	115	140
H1150	H1150	105	135
CONDA	CONDITION A (SOLUTION TREATED)		

NOTES: MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR TENSION OR SHEAR APPLICATIONS IN COLD WEATHER CONDITIONS
MATERIAL IN H800 AND H925 CONDITION NOT RECOMMENDED FOR APPLICATIONS WHERE STRESS CORROSION CRACKING IS POSSIBLE
CONDITION A NOT TO BE USED IN DESIGN FOR FINAL PRODUCT AND SHOULD ALWAYS BE HEAT TREATED

EXAMPLES:

PART NUMBER
4.000" DIAMETER BAR MIN UTS = 150 KSI, MIN YTS = 100 KSI
2.500" DIAMETER BAR H900 CONDITION
3.250" DIAMETER BAR H1025 CONDITION
0.750" DIAMETER BAR A CONDITION

RELEASED
2017-10-31
E(w17-728)

APPROVED

C	ADDED MATERIAL CONDITION (CIR17-107)	NO	17.09.14
B	REFORMAT DWG. S17400/TYPE 630 ADDED TO PURCHASE MATERIAL (ZIN DB-1). ADD A564 SPEC. (CS-1).	VS	10.05.20
A	NEW ISSUE	CP	05.03.16
REV.	DESCRIPTION	BY	DATE
DESIGN	NO	NO	
DRAWN	NO	NO	
CHECKED	CP	CP	
MFG. APPR.	RA	RA	
APPROVED	WM	WM	
DE APPR.	CP	CP	
DATE	17.09.14		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M17-4-R			
SHEET 1 OF 1			
TITLE 17-4 SS ROUND BAR			
SCALE NTS			
REV. C			
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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M17-4-H900
 DATE: 18/08/08

PO / BATCH NO.: P0040488/S099997

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 244
 QUANTITY INSPECTED: 244
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.750"
 THICKNESS RECEIVED: 0.750"
 SHEET SIZE ORDERED: —
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	AMB 5643
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(Y) N	LT: 441600
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u> DATE: <u>18/08/08</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in